

area. The gateway GPRS support node (GGSN) 54 acts as a logical interface to external data packet networks such as the IP data network 56. SGSN nodes 50 and GGSN nodes 54 are connected by an intra-PLMN IP backbone 52. Thus, between the SGSN 50 and the GGSN 54, the Internet protocol (IP) is used as the backbone to transfer data packets.

Within the GPRS network 51, packets or protocol data units (PDUs) are encapsulated at an originating GPRS support node and decapsulated at the destination GPRS support node. This encapsulation/decapsulation at the IP level between the SGSN 50 and the GGSN 54 is called "tunneling" in GPRS. The GGSN 54 maintains routing information used to "tunnel" PDUs to the SGSN 50 currently serving the mobile station. A common GPRS Tunnel Protocol (GTP) enables different packet data protocols to be employed even if those protocols are not supported by all of the SGSNs. All GPRS user-related data needed by the SGSN to perform the routing and data transfer functionality is accessed from the HLR 42 via the SS7 network 40. The HLR 42 stores routing information and maps the IMSI to one or more packet data protocol (PDP) addresses as well as mapping each PDP address to one or more GGSNs. --

Cont A2
Please replace the paragraph beginning at page 9, line 5 with the following paragraph:

A3
-- In the context of providing quality of service (QoS) in a mobile data communications systems, one QoS approach is to assign a specific priority to each PDP context. But this approach is unsatisfactory. As defined above, each PDP context may have plural application flows. Each application flow in a current PDP context/session likely has different per packet delay needs. For example, real time applications like telephony require a guaranteed service while image video needs a predicted delay service. More specifically, elastic applications like interactive bursts, interactive bulk transfer, and asynchronous bulk transfer require different degrees of as soon as possible (or best effort) delay service. --

A4
The paragraph beginning at page 11, line 21 and continuing through page 12, line 5:

-- In addition to the data communications "tunnel" corresponding to the network layer bearer between the gateway node and the mobile host, a relationship is also established in the gateway node between a mobile host identifier (e.g., the mobile's IMSI), the